**API Endpoints**

* **Ports Management:**
  + GET /api/Ports/GetAllPorts: Retrieves a list of all ports.

Request JSON

Result JSON

[

{

"name": "Los Angeles Port",

"latitude": 34.0522,

"longitude": -118.2437

},

{

"name": "New York Port",

"latitude": 40.7128,

"longitude": -74.006

},

{

"name": "London Port",

"latitude": 51.5074,

"longitude": -0.1278

}

]

* **Ships Management:**
  + GET /api/Ships/GetShips: Retrieves all ships.

Request JSON

Result JSON

[

{

"shipId": 3,

"name": "RG Shipping Line",

"shipCode": "RGSL001",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4,

"users": [

{

"userId": 1,

"userName": "Rudolf",

"role": "Admin"

},

{

"userId": 2,

"userName": "Jhon",

"role": "User"

},

{

"userId": 2003,

"userName": "Jeremy",

"role": "Admin"

}

]

},

{

"shipId": 4,

"name": "RG Shipping Line 02",

"shipCode": "RGSL002",

"latitude": 3,

"longitude": 101.3999984,

"velocity": 5,

"users": [

{

"userId": 2,

"userName": "Jhon",

"role": "User"

}

]

},

{

"shipId": 1003,

"name": "RG Shipping Line 02",

"shipCode": "RGSL002",

"latitude": 3,

"longitude": 101.3999984,

"velocity": 5,

"users": []

},

{

"shipId": 1004,

"name": "RG Shipping Line 005",

"shipCode": "RGSL005",

"latitude": 53.34609,

"longitude": -6.20831,

"velocity": 3,

"users": []

},

{

"shipId": 2003,

"name": "RG Shipping Line 007",

"shipCode": "RGSL007",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3,

"users": [

{

"userId": 1003,

"userName": "Sidney",

"role": "Admin"

},

{

"userId": 2002,

"userName": "Albert",

"role": "Admin"

}

]

},

{

"shipId": 2004,

"name": "RG Shipping Line 008",

"shipCode": "RGSL008",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 10,

"users": [

{

"userId": 2003,

"userName": "Jeremy",

"role": "Admin"

}

]

}

]

* + GET /api/Ships/GetUnassingedShips:

Request JSON:

Return JSON:

[

{

"shipId": 1003,

"name": "RG Shipping Line 02",

"shipCode": "RGSL002",

"latitude": 3,

"longitude": 101.3999984,

"velocity": 5,

"users": []

},

{

"shipId": 1004,

"name": "RG Shipping Line 005",

"shipCode": "RGSL005",

"latitude": 53.34609,

"longitude": -6.20831,

"velocity": 3,

"users": []

}

]

* + POST /api/Ships/CreateShip: Creates a new ship.

With users

Request JSON:

{

  "name": "RG Shipping Line 009",

  "shipId": "RGSL009",

  "latitude": 56.319832054,

  "longitude": -133.603997584,

  "velocity": 3,

  "users": [

    {

      "userId": 2003,

      "userName": "Jeremy",

      "role": "Admin"

    }

  ]

}

Return JSON:

{

"shipId": 3003,

"name": "RG Shipping Line 009",

"shipId": "RGSL009",

"shipCode": "RGSL009",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3,

"users": [

{

"userId": 2003,

"userName": "Jeremy",

"role": "Admin"

}

]

}

Without user

Request:

{

  "name": "RG Shipping Line 011",

  "shipId": "RGSL011",

  "shipCode": "RGSL011",

  "latitude": 56.319832054,

  "longitude": -133.603997584,

  "velocity": 3,

  "users": []

}

Return:

{

"shipId": 3004,

"name": "RG Shipping Line 011",

"shipCode": "RGSL011",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3,

"users": []

}

* + POST /api/Ships/AssignShipToUser: Assigns a ship to a user.

Request JSON

{

  "shipId": 1004,

  "userIds": [

   1003

  ]

}

Return JSON

{

"shipId": 1004,

"name": "RG Shipping Line 005",

"shipCode": "RGSL005",

"latitude": 53.34609,

"longitude": -6.20831,

"velocity": 3,

"users": [

{

"userId": 1003,

"userName": "Sidney",

"role": "Admin"

}

]

}

* + POST /api/Ships/GetShipBasedOnUserId: Get ship based on user id.

Request: “https://localhost:7279/api/Ships/GetShipsBasedOnUserID?id=1”

Return:

[

{

"shipId": 3,

"name": "RG Shipping Line",

"shipCode": "RGSL001",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4,

"users": [

{

"userId": 1,

"userName": "Rudolf",

"role": "Admin"

}

]

}

]

* + POST /api/Ships/UpdateVelocity: Updates the velocity of a ship.

Request:

{

  "shipId": "2004",

  "velocity": 10

}

Response:

{

"shipId": 2004,

"name": "RG Shipping Line 008",

"shipCode": "RGSL008",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 10,

"users": [

{

"userId": 2003,

"userName": "Jeremy",

"role": "Admin"

}

]

}

* + POST /api/Ships/GetClosestPort: Calculates and retrieves the closest port to a given ship.

Request:

{

  "id": 2004

}

Return:

{

    "portInformation": {

        "portInfo": {

            "name": "London Port",

            "latitude": 51.5074,

            "longitude": -0.1278

        },

        "estimatedDistance": "1438,34 Nautical Miles",

        "estimatedArrivalTime": "Estimated Arrival Time 6 days and 0 hours."

    },

    "shipDetailInfo": {

        "shipId": 2004,

        "name": "RG Shipping Line 008",

        "shipCode": "RGSL008",

        "latitude": 56.319832054,

        "longitude": -133.603997584,

        "velocity": 10,

        "users": [

            {

                "userId": 2003,

                "userName": "Jeremy",

                "role": "Admin"

            }

        ]

    }

}

* **Users Management:**
  + GET /api/Users/GetUsers: Retrieves all users.

Request:

Return:

[

{

"userId": 1,

"userName": "Rudolf",

"role": "Admin",

"ships": [

{

"shipId": 3,

"shipCode": null,

"name": "RG Shipping Line",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4

}

]

},

{

"userId": 2,

"userName": "Jhon",

"role": "User",

"ships": [

{

"shipId": 3,

"shipCode": null,

"name": "RG Shipping Line",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4

},

{

"shipId": 4,

"shipCode": null,

"name": "RG Shipping Line 02",

"latitude": 3,

"longitude": 101.3999984,

"velocity": 5

}

]

},

{

"userId": 1002,

"userName": "Doe",

"role": "Admin",

"ships": []

},

{

"userId": 1003,

"userName": "Sidney",

"role": "Admin",

"ships": [

{

"shipId": 2003,

"shipCode": null,

"name": "RG Shipping Line 007",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3

}

]

},

{

"userId": 2002,

"userName": "Albert",

"role": "Admin",

"ships": [

{

"shipId": 2003,

"shipCode": null,

"name": "RG Shipping Line 007",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3

}

]

},

{

"userId": 2003,

"userName": "Jeremy",

"role": "Admin",

"ships": [

{

"shipId": 3,

"shipCode": null,

"name": "RG Shipping Line",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4

},

{

"shipId": 2004,

"shipCode": null,

"name": "RG Shipping Line 008",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 10

},

{

"shipId": 3003,

"shipCode": null,

"name": "RG Shipping Line 009",

"latitude": 56.319832054,

"longitude": -133.603997584,

"velocity": 3

}

]

}

]

* + POST /api/Users/CreateUser: Creates a new user.

Request:

{

  "userName": "Bosch",

  "role": "Admin",

  "ships": [

    {

        "shipId": 3,

        "name": "RG Shipping Line",

        "ShipCode": "",

        "latitude": -6.13333,

        "longitude": 106.9,

        "velocity": 3

    }

  ]

}

Return

{

"userId": 3002,

"userName": "Bosch",

"role": "Admin",

"ships": [

{

"shipId": 3,

"shipCode": null,

"name": "RG Shipping Line",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4

}

]

}

Create user with no ship

Request:

{

   "userName": "Tate",

   "role": "Admin",

   "ships": []

}

Return:

{

"userId": 3003,

"userName": "Tate",

"role": "Admin",

"ships": []

}

* + POST /api/Users/AssignUserToShips: Assigns ships to a user.

Request:

{

"usersId": 2,

"shipIds": [

3,4

]

}

Return:

{

"userId": 2,

"userName": "Jhon",

"role": "User",

"ships": [

{

"shipId": 3,

"shipCode": null,

"name": "RG Shipping Line",

"latitude": -6.13333,

"longitude": 106.9,

"velocity": 4

},

{

"shipId": 4,

"shipCode": null,

"name": "RG Shipping Line 02",

"latitude": 3,

"longitude": 101.3999984,

"velocity": 5

}

]

}